

Work Order ID 75373

75373

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Friday, October 21, 2011 8:59:46 AM

Item ID: D2333-105 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Tubing Assembly
 Start Date: 10/24/2011 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 11/4/2011 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: ME Date: 11-10-24 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2333	Rev B								

100 0.00
100 NC BRAKE
 Brake NC
 Brake NC
 Memo
 Bend per Template T2333-103 & Assemble as per Dwg D2333 Flare ends as per Dwg D2333

Purchasing PO 15232 11-10-24
M 2650-14 M 106071 24"

110 0.00
110 QC5- Inspect part completeness to step on W/O
 QC
 Memo
 Quality Control

105- rec'd + inspect for transit damage
attached coc to W/O

Flare 1 end
ALS
M 11-11-29 (1)

120 0.00
120 Identify as per dwg & Stock Location: _____
 Packaging
 Packaging
 Memo
BURP 74857

11/11/29 (1)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC21- Final Inspection - Work Order Release	0.00							
130									
QC	Memo	0.00							
Quality Control									

11/11/29 *[Signature]*
MF
11-11-29

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Picklist Print

Friday, October 21, 2011 8:59:46 AM

Page 1

Work Order ID: 75373

Parent Item: D2333-105

Parent Item Name: Tubing Assembly

Start Date: 10/24/2011

Required Date: 11/4/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP C00.12.05Re-formatEC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN818-16J Nut		Purchased	No			100	Each	4.0000	2	M1193608			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST332		4							
				107715		4							
M2650-16 Firesleeve-crinkle		Purchased	No			100	f	9.5000	1	C2Luk118			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST420A		9.5							
				106071		9.5							
M304TR1.000W.049 304 RD Tube 1.00 x .049W		Purchased	No			100	f	13.9863	1	2.2			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT018		13.986315							
				111457		12.66							
				117598		1.326315							
MS20819-16J Sleeve		Purchased	No			100	Each	0.0000	2	M119356 11/10/25			

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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DESIGN B WILLIAMS	DRAWN BY B WILLIAMS	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED BW	APPROVED CA	DRAWING NO. D2333	REV. B SHEET 1 OF 4
DATE 96:02:27		TITLE TUBING ASSEMBLIES	
B	96:02:27	ADDITIONAL DRAWINGS ADDED	

-107	-105	-103	-101	Part No.	Description
X	X	X	X	D2333	B205 HEATER TUBES
	2	2	2	AN818-16J	NUT
	2	2	2	MS20819-16J	SLEEVE
1	1	1	1	FIRESLEEVE 2650-16	INSULATION SLEEVE
2				AN818-16D	NUT
2				MS20819-16D	SLEEVE

MATERIAL: 1" OD X 0.049 WALL 304/316 STAINLESS STEEL

NOTES:

1. BEND PER TEMPLATES IDENTIFIED PER TUBE PART NUMBER WITH 'T' PREFIX
2. FLARE TO MATE MS33514 FLARED FITTINGS
3. INSTALL 2650 FIRESLEEVE (STRATOFLEX) OVER ALL TUBE ASSEMBLIES

75379

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

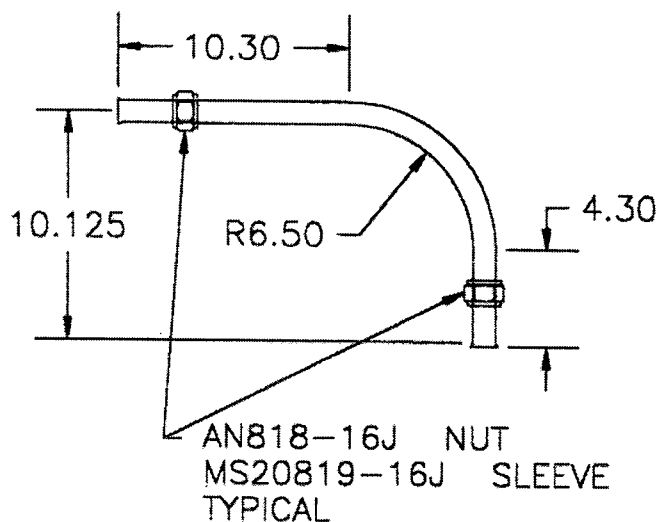
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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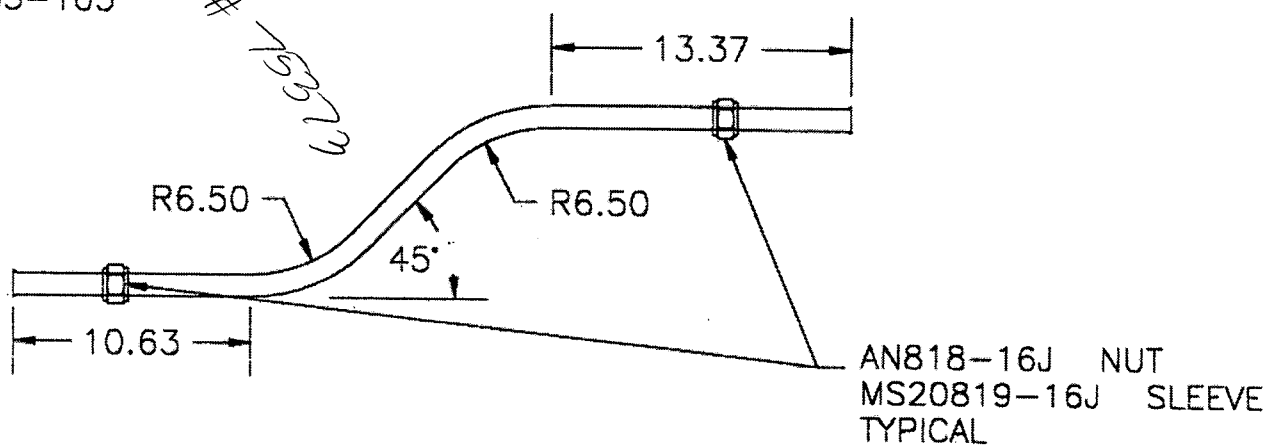


DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
B WILLIAMS	B WILLIAMS	DRAWING NO.	REV. 8
CHECKED B.W.	APPROVED [Signature]	D2333-101	SHEET 2 OF 4
DATE 96:02:26	TITLE HEATER TUBES	SCALE 1:1	

D2333-101



D2333-103



INSTALL FIRESLEEVE ON ALL TUBING

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

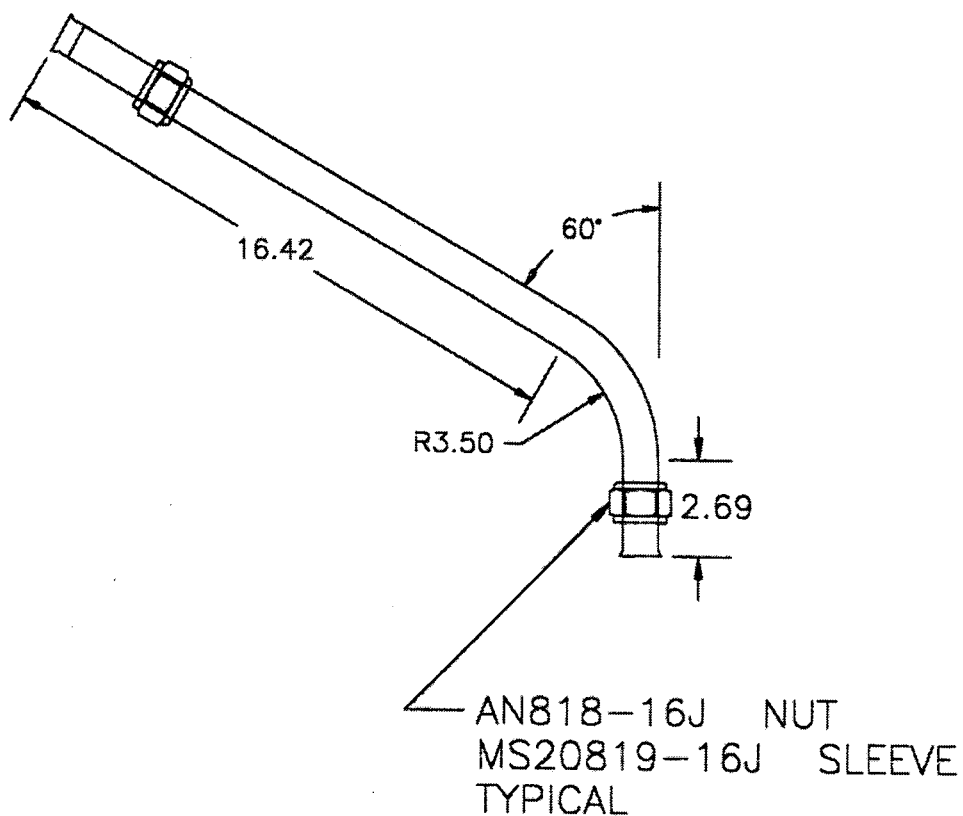
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
B WILLIAMS	B WILLIAMS	DRAWING NO.	REV. B
CHECKED BW	APPROVED [Signature]	D2333-105	SHEET 3 OF 4
DATE		TITLE	SCALE
96:02:26		HEATER TUBING	1:1



INSTALL FIRESLEEVE ON ALL TUBING

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

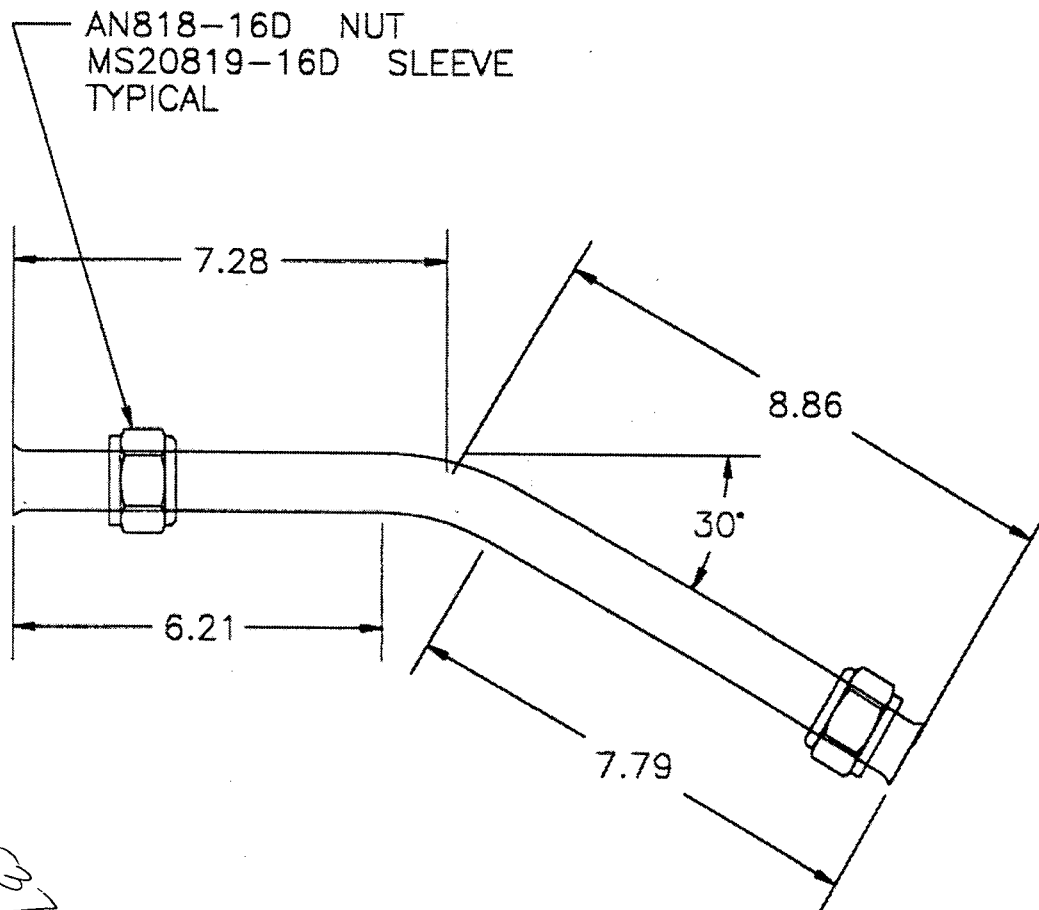
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NOTE: Date & initial all entries

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DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
B WILLIAMS	B WILLIAMS	DRAWING NO.	REV. B
CHECKED BLS	APPROVED	D2333-107	SHEET 4 OF 4
DATE	TITLE		SCALE
96:02:26	HEATER TUBING		1:1



75373

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO15232

Purchase Order Date 10/24/2011

PO Print Date 10/27/2011

Page Number 2 of 2

Order From :

VC-CIN001

CINTUBE LTEE
333 ST-JOSEPH BLVD
LACHINE, QC H8S 2K9
CA

Contact Name		Buyer	Brigitte Golden
Vendor Phone	514 634 3592	Requisition Nbr	
Vendor Fax	514 636 3336	Tax Resale Nbr	10127-2607
Vendor Account Nbr		Terms	Net 30
		Currency	CAD
		FOB	Destination-Collect

3	D2333-105P	Tubing Assembly	11/2/2011	1.00	FedEx Overmig	\$320.0000	\$320.00
			Yes	Each			

Special Inst: Make per Dwg: D2333 Rev: B
C of C required
All parts supplied by Dart
2 X AN818-16J Nut B119360
1.2' X M304TR1.000W.049
Tube B111457
2 X MS20819-16J Sleeve B119356

4	D2333-107P	Tube Assembly	11/2/2011	1.00	FedEx Overmig	\$320.0000	\$320.00
			Yes	Each			

Special Inst: Make per Dwg: D2333 Rev: B
C of C required
All parts supplied by Dart
2 X AN818-16J Nut B119360
1.2 X M304TR1.000W.049
Tube B111457
2 X MS20819-16J Sleeve B119356

PO Total: \$1,280.00

Change Nbr: 4

Change Date: 10/27/2011

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

CINTRAGE DE PRÉCISION, DE TUBES, TUYAUX, CORNIÈRES, POUTRES,
PROFILÉS EN "U", ET SERPENTINS.
MANUFACTURIER DE GÉNÉRATRICE À VAPEUR, ÉLÉMENT CHAUFFANT,
RÉCUPÉRATEUR DE CHALEUR, ÉCONOMISEUR ETC.
PRECISION BENDING OF TUBES, PIPES, ANGLES, BEAMS, CHANNELS, COILS.
MANUFACTURERS OF STEAM GENERATORS, THERMAL FLUID HEATERS,
WASTE HEAT RECOVERY UNITS, ECONOMIZERS.

333 BOUL. ST-JOSEPH, LACHINE, QUÉBEC H8S 2K9
TÉLÉPHONE: (514) 364-6426 FAX NO: (514) 636-3336

LETTRÉ DE CONFORMITÉ - LETTER OF COMPLIANCE

Client/Customer DART AEROSPACE LTD Date: NOV. 24/2011

N° de commande du client/Customer order No: P015232

Notre n° de feuille de route/Our order No: 116710

Notre n° de dessin/Our drawing No: —

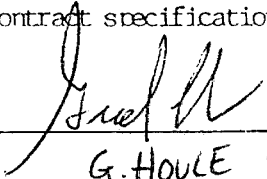
Description/Customer drawing No: D2333-103, D2333-105, D2333-107

Nom de la pièce/Part Name: HEATER TUBING

ONE PIECE OF EACH

La présente est pour certifier que le matériel ci-haut mentionné se conforme aux exigences contractuelles de qualité et/ou de la confirmation de la commande, qu'il a été produit, inspecté et testé selon les spécifications standards applicables de notre programme de contrôle de la qualité, du contrat et du(des) dessin(s).

This is to certify that the material covered by this document conforms to the quality requirements of the purchase order or contract, that the material has been produced, verified and tested according to applicable standard specifications listed in our quality control procedures, contract specifications and/or drawing(s).

Signé par/Signed by: 

G. HOULE POUR B. OVERBURY

Directeur des services techniques/Technical Services Director

Pour la Compagnie Cintube Ltée/On behalf of Cintube Ltd.


MILL TEST CERTIFICATE

SHANGHAI PUFA STAINLESS STEEL PIPE FACTORY

7 Hongye Road, Tang Town, Pudong New District, Shanghai, China

ISO 9001:2008 MOODY

CINTUDE LTD.
116710
DART AEROSPACE
PO15232
NOV.23/2011
REGISTRATION No.: 110703068

CERTIFICATE NO. 10-5-6						PURCHASER SC MFG Group						
COMMODITY Seamless Stainless Steel Tube OD Polished to 240Grit						CONTRACT NO.: SC-15201 // PINACLE ORDER # 53263						
SPECIFICATION ASTM A213-08/ASME SA213-08/ASTM A269-08 EAW						DATE OF REPORT 2010.5.9						
Steel Grade	Heat No.	Lot No.	Dimensions					Process	Delivery Condition	Macroscopic Inspection		
			O.D. (in)	W.T. (in)	Length (ft)	Pieces	Feet			End Cut	Appearance	
TP304/ TP304L	TG090962		1	0.049	20	100	2,000	Cold-Drawn	Solution -Annealed	Passed	Passed	
Chemical Composition (W.T. %)												
Element	C	Mn	P	S	Si	Cr	Ni	Mo	Ti			
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.0~20.0	8.0~11.0		/			
Ladle Analysis	0.023	0.82	0.038	0.001	0.34	18.16	8.09		/			
Product Analysis	0.018	0.87	0.041	0.001	0.31	18.33	8.29		/			
Mechanical Properties												
Test Item	Y.S. (MPa) Rp0.2	T.S. (MPa) Rm	EL. (%) In 2 in	Reduction of Area Z. (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test			
Requirements	≥205	≥515	≥35	/	HRB≤80	/	21%	e=0.09				
Test Results	280/290	640/650	65/66	/	78/80	/	Passed	Passed	Passed			
Non Destructive Tests				Hydrostatic Test	Inter-granular Corrosion Test	Remarks : Materials is NACE MR0103 2007 compliant Tubes tested per ASTM A116-04a All tubes annealed to above 900 Deg F and water quenched below 800 Deg F in 3 minutes- No weld repair performed In compliance with Mil-P-24691 / 3 In compliance with RoHS Directive 2008/35/EC Tubes Made in CHINA -Material compliance to ASTM A262 Practice E						
Test Item	Eddy Current Test	Ultrasonic Test										
Requirements	ASTM E 426	/	/									/
Test Results	Passed	/	/									/
We hereby certify that the material described herein has been made and tested completely in accordance with the above specification and with the requirements of the purchase order or contract.					Prepared by QC Manager	Approved by  General Manager						